

PROCEEDINGS OF THE  
ROYAL ENTOMOLOGICAL SOCIETY  
OF LONDON

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ORDINARY MEETING

WEDNESDAY, 7TH APRIL, 1948, at 5.30 p.m.

AGENDA

1. Confirmation of the Proceedings of the Special Meeting and of the Ordinary Meeting held on 3rd March, 1948.
2. Recommendations of candidates for Fellowship.
3. Announcement of election of new Fellows.
4. Additions to the Library.

*Presented.*

Vargas, L., Martinez Palacios, A., and Diaz Najera, A. *Simulidos de Mexico. Rev. Inst. Salub. Enferm. trop.* 7 : 101-192, 1946.

[Dr. L. Vargas.]

Swiss League for the Protection of Nature. *Conférence internationale pour la protection de la nature.* 8vo. Brunnen, 1947.

[Swiss League for the Protection of Nature.]

Balazuc, J. La Tératologie des Coléoptères, et expériences de transplantation sur *Tenebrio molitor* L. *Mém. Mus. Hist. nat. Paris* 25 : 1-293, 1947.

[The Author.]

*Purchased.*

Ratzeburg, J. T. C. *Forst-Insecten.* 3 vols. 4to. Berlin, 1837-44.

Ratzeburg, J. T. C. *Erster Nachtrag zu Ratzeburg's Forst-Insecten.* Band 1. 4to. Berlin, 1839.

Van den Brande, J. *Algemeene Insectenleer.* 8vo. Antwerp, 1946.

Fleutiaux, E., and others. *Coléoptères des Antilles.* Vol. I. 8vo. Paris, 1947.

Nielsen, E. T. *Moeurs des Bembex. Skr. Univ. zool. Mus. Kbh.* 7 : 1-74, 1945.

Anthon, H. *Der Kopfbau der Larven einiger Nematoceren Dipterenfamilien. Skr. Univ. zool. Mus. Kbh.* 3 : 1-61, 1943.

Lhomme, L. *Catalogue des Lépidoptères de France et de Belgique.* Vol I. 8vo. Le Carriol, 1923-35.

In addition, separates have been presented by the United States Department of Agriculture, Capt. E. Rivenhall Goffe, the Trustees of the British Museum, Dr. C. B. Williams, the Rochester and District Natural History Society, Capt. K. J. Hayward, Prof. G. D. Hale Carpenter, the Smithsonian Institution, Dr. S. H. Jayewickreme, Mr. T. Ramachandra Rao, Mr. E. W. Aubrook, and Mr. N. D. Riley.

5. Admission of Fellows.

6. Communications :—

### Dr. J. S. Kennedy

The Problem of Migration in the Light of Recent Work on Locusts.

[Abstract]

The migrations of locusts are now better documented than those of any other insects. The orientation of marching hopper bands and flying swarms has been found to be subject to various external influences such as wind and sun, and there is no evidence of an "innate sense of direction." The pattern of long-range swarm migrations seems to depend mainly on the wind, which introduces a bias into the complex of variously-oriented movements. The "control" exercised by flying swarms over their own displacement over the ground makes a strong impression on the casual ground observer, but is incomplete. Geographically, the most spectacular migrations occur when the swarms have least control over their own displacement, alike when the movement is biologically "successful" and when it is "abortive" for them.

The physiologies and behaviour patterns of the two phases, *solitaria* and *gregaria*, of the Desert Locust, are quite different. Yet both are now known to migrate and their seasonal, long-range migrations follow a similar pattern. To make one particular behaviour pattern a criterion of migration seems, therefore, to create an artificial division. The evidence suggests that, with few exceptions, both "involuntary" and "voluntary," insect migrants show some form of physiologically-conditioned behaviour change facilitating and to some extent controlling their displacement. These common, general features seem sufficient to justify grouping all such cases together whatever variations of detail may exist, for example in the amount of control exercised by the insect over its own displacement.

Enough is known about locust migration for a tentative appraisal of its biological results, or "evolutionary significance." If the whole pattern of migrations and the whole phase cycle are taken into account, then locust migration appears to be a population-regulator, for it seems to moderate both the increases and decreases in numbers to which these insects, with no internal checks to continuous reproduction, are especially prone.

If circumstances permit tea will be served in the Library before the meeting.

### NOTICES

A card index of Fellows' addresses arranged on a geographical basis is now available for the use of Fellows in the Society's Rooms. Addresses in Great Britain are grouped under counties; elsewhere under Dominions, Colonies, Foreign States, etc.

### ADMISSION OF FELLOWS

Any Fellow who has not been formally admitted to the Society under Chapter XIV, Section 4 of the Bye-Laws and attends the meeting on 7th April, 1948, is requested to inform the Society before 5.15 p.m. on that date.



## PROCEEDINGS OF THE SPECIAL MEETING HELD ON 3RD MARCH, 1948.

Dr. C. B. Williams, M.A., President, in the Chair.

Present, 66 Fellows and 8 Visitors.

The notice summoning the Special Meeting having been circulated, consideration was given to the changes in the Bye-Laws proposed by Council and printed on page 5.

(1) CHAPTER IV. *Officers.*

The Secretary announced that in order to avoid ambiguity, Council wished to add the following clause to the proposed new paragraph: ". . . so that not more than two such additional Honorary Officers hold office at any one time." He also pointed out that in lines 9 and 10 of the said paragraph, the word "supplementary" should read "additional."

A discussion took place, as a result of which, on the proposal of Dr. S. A. Neave, the proposed addition was after a vote referred back to Council for reconsideration.

(2) CHAPTER XXI. *Ordinary Meetings of the Society.*

The proposed changes were agreed.

N. D. RILEY, *Honorary Secretary.*

## PROCEEDINGS OF THE ORDINARY MEETING HELD ON 3RD MARCH, 1948.

Dr. C. B. Williams, M.A., President, in the Chair.

Present, 68 Fellows and 12 Visitors.

The minutes of the meeting held on 4th February were confirmed and signed by the President.

The names of the following candidates for election were read :

For the first time : H. K. Bagnall-Oakeley, M.A., J. W. M. Beament, M.A., Ph. D., W. A. L. David, M.A., Ph.D., Angus Fraser, C. M. Jones, F. R. Jones, P. Hunter Jones, B.Sc., H. R. Last, A. D. Lees, Ph.D., N. C. Pant, M.Sc., M. G. M. Pryor, Ph.D., and C. S. Wood Baker, M.Sc., Ph.D.

For the second time : J. S. Ball, B.Sc., Miss J. van Konynenburg, A. S. G. Mardon, K. G. Smith, Lt.-Col. Charles Stockley, T. W. Venkatraman, B.A., M.Sc., and C. Weightman.

The Secretary read the names of the following newly elected Fellows of the Society : T. L. C. Bottomley, 23, Ryegate Crescent, Sheffield, 10 ; R. A. Cumber, Imperial College of Science, Prince Consort Road, London, S.W.7.; Miss M. Farquhar, B.Sc., Department of Zoology, Rhodes University College, Grahamstown, South Africa ; Dr. Johann C. van Hille, Lecturer in Zoology, Rhodes University College, Grahamstown, South Africa ; Dr. M. G. Ramdas Menon, c/o British Museum (Natural History), Cromwell Road, London, S.W.7 ; Dr. Antonio C. Soika, Museo Civico Storia Naturale, Venezia, Italy ; P. G. Taylor, 51, Woodland Drive, Watford, Herts ; A. B. M. Whitnall, M.Sc., Hon. Lecturer in Entomology, Department of Zoology, Rhodes University, Grahamstown, South Africa ; C. F. M. Willemse, Eggelshoven, Z.L., Holland ; T. E. Woodward, Imperial College of Science, Prince Consort Road, London, S.W.7.

Thanks were voted to donors of gifts to the Library since the last meeting. Mr. W. W. Baum, Dr. Edward Hindle, F.R.S., Mr. J. D. Hillaby, Mr. T. J. Honeybourne, Lieut. N. W. Rockingham, R.N., and Mr. T. W. Tinsley, signed the Obligation Book and were admitted Fellows of the Society.

Communications were made by Dr. O. W. Richards and Mr. A. P. Kapur, abstracts of which appeared on pages 6-7.

In the discussion following Dr. Richards' talk Mr. W. J. Le Quesne (a visitor from the Channel Islands) said that besides agreeing with the points



which Dr. Richards had described, he would like to refer to the subject of vagrant, as distinct from migrant, species. In an island, the appearance of a hitherto absent species in a well-studied group showed that the insect must be capable of crossing the sea barrier under suitable conditions. *Argynnis selene* Schifferrueller in Sark was an example, having established itself firmly some time during the past few years. Another interesting fact was the absence of certain expected species from the whole or part of the island group, an example of the former being *Orgyia antiqua* L., which had limited powers of spreading as the female was wingless. No HESPERIIDAE were recorded from Guernsey and the lesser islands, though represented by two established residents in Jersey. He also said that it was unfortunate that the insect fauna of the Channel Islands was regarded as outside the province of both English and French entomologists, even though this might save some of the rarities from the danger of over-collecting. He felt that the museums of the Islands should be the homes of their local collections, but, even if specimens could not always be so deposited, the Société Jersiaise and the Guernsey Society would be grateful for any records made by entomologists visiting the Islands.

In addition, Mr. D. G. Sevastopulo drew the attention of the meeting to the coloured plate illustrating the paper by the late Sir Edward Poulton on the Tree-Viper-like larva of the Oriental Hawk Moth *Theretra silhetensis* Walker (1932, *Proc. ent. Soc. Lond.* 7 : 105). He said that unfortunately the larva illustrated was not that of *silhetensis*, both the colour and markings being wrong, and, what was far more important, the shape of the horn was entirely different. He said he had bred *T. silhetensis* in large numbers in Calcutta and had found the pattern of the larva very constant, consisting of a subdorsal series of seven small ocelli on the lower portion of a darker subdorsal stripe, although there was a fair amount of variation in the ground colour, which could be a rather pale green, or a brown varying from a golden tint to a muddy chocolate. A good figure of the golden brown colour phase was given by Bell and Scott in *Fauna of British India, Heterocera* 5, plate VI, fig. 4, which showed both the pattern and the very distinctive horn, described by these authors as "smooth and shining, very short, thick at base and tapering sharply to a point, the horn rising from a fleshy cone, of which it forms a regular continuation." The larva in the figure under criticism was green and had only a single ocellus on the first abdominal somite, traces of brown spiracular patches, a brown dorsal strip on the abdominal somites, a curved black stripe from the first abdominal somite, running through the ocellus and apparently joining on the dorsum of the mesothorax, and a fairly long, down-curved horn. Except for the horn, all these features were most unusual in any *Theretra*, or indeed in any Chaerocampid larva, and far more like the markings of the larvae of the genus *Panacra* Walker, belonging to the Nephelini.

Mr. Sevastopulo went on to say that, but for the fact that Mr. Ridley's letter, which forms the major part of the communication referred to, mentioned the existence of a brown form of this larva, he would have said that the larva was undoubtedly a *Panacra*. He still felt this was probable, but, of the three species of *Panacra* larva known from India, only one, *mydon* Walker, had a dark larval form. This form was well illustrated by Bell and Scott (*ibid.*, Plate IV, fig. 9). He was not himself certain whether an all brown form of larva existed; Bell and Scott wrote that segments 6 to 12 were sometimes immaculate except for the spiracular band, or marked with irregular brown patches, and added that "when bred in the dark the brown colour may spread over the whole of these segments."

N. D. RILEY, *Honorary Secretary.*

The next meeting will be held on Wednesday, 5th May, at 5.30 p.m.